

A National Summit: Moving Toward Interoperability— Technologies for Accessible, Affordable Healthcare

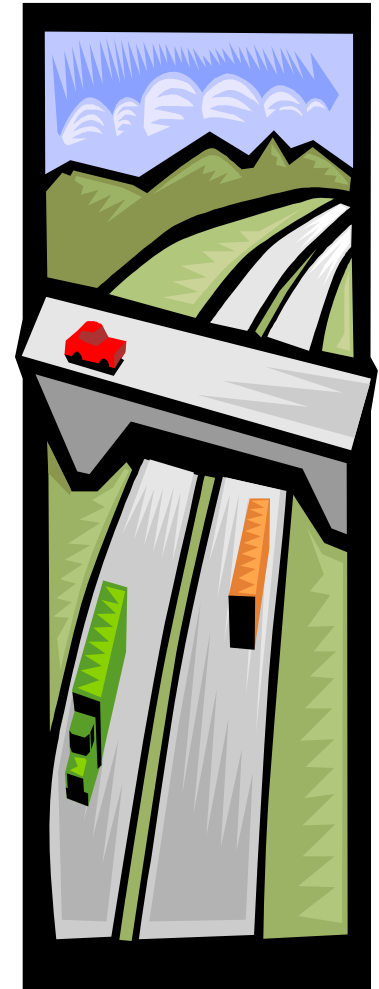
Filling the Interoperability Gaps

Kurt Hamke
Marketing Director New Business Initiatives
Global Marketing
Integrated IT Solutions
GE Healthcare



Discussion Roadmap

- ✓ Market Drivers
- ✓ The Challenge of Interoperability
- ✓ Need for Collaboration
- ✓ The Roadmap Forward



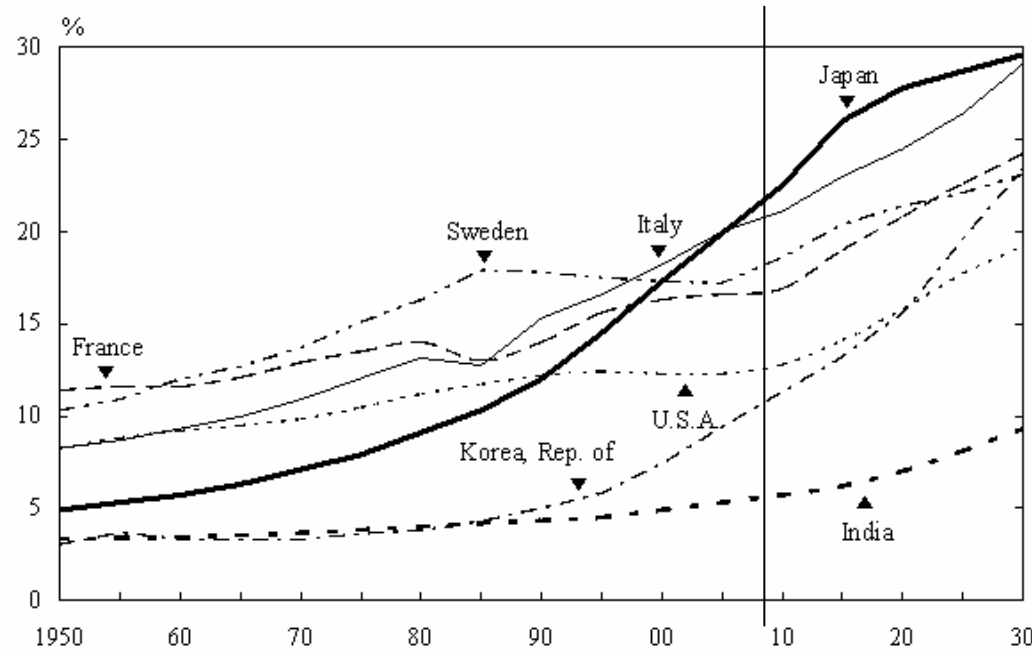
Market Drivers



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The Good News- We are Living Longer

Proportion of Elderly Population by Country (Aged 65 years and over)



Source: Statistics Bureau, MIC; United Nations; Ministry of Health, Labour and Welfare.

But, this is creating a worldwide shift to a larger elderly population is occurring.



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Source: Statistics Bureau, MIC, Government of Japan; United Nations; The Japanese Ministry of Health, Labour and Welfare
<http://www.stat.go.jp/English/data/handbook/c02cont.htm>

The Bad News: As We Age We Become More Chronically Ill

- Almost 75% of the elderly (> 65) in the U.S. have at least one chronic disease.¹
- About 50% in the U.S. have at least two chronic disease.¹
- This is not just a U.S. concern
 - ✓ Almost 72% in Hong Kong have at least one chronic disease.²
 - ✓ Almost 80% in Turkey have at least one chronic disease.³

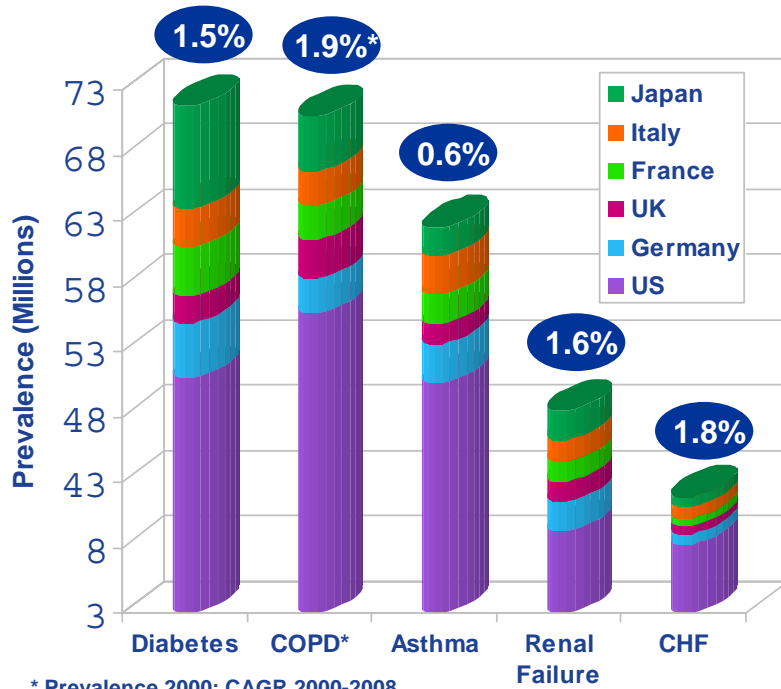
¹Calkins E, Boulton C, Wagner E, et al. New ways to care for older people. Building systems based on evidence. New York: Springer; 1999.

²Internet Reference: <http://www.globalaging.org/health/world/2005/chronos.htm>

³Internet Reference: The Prevalence of Chronic Diseases and Quality of Life in Elderly People in Samsun; <http://journals.tubitak.gov.tr/medical/issues/sag-03-33-5/sag-33-5-12-0210-15.pdf>

Chronic Disease Prevalence

Chronic Disease Prevalence 2004; CAGR 2004-2015 (%)



Chronic disease accounted for roughly 78% of the \$1.4 trillion in U.S healthcare costs in 2001 (direct medical costs and lost productivity)

Why CHF?

- CHF is the **#2 reason** people are admitted to hospital
- High readmission rates... **44% patients** in 6 months, 17% readmitted 2+ times
- **Good therapeutic options...** CHF can stabilize with optimized medications, lifestyle changes

CHF Demographics



CHF prevalence: 5.4 million (2004)

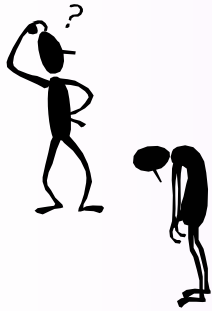
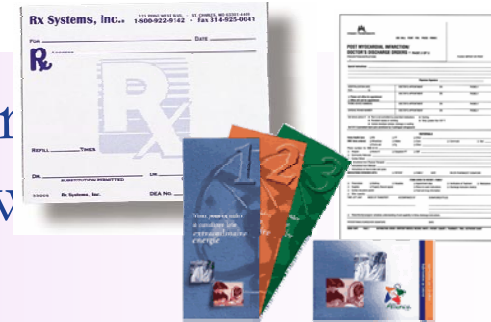
CAGR 2004-15: 2.0%

CHF Class III/IV Population: 3.1M (57%)

\$23.7 billion direct costs (2004) -- over 4% of the U.S healthcare budget (almost 2/3rds of cost from hospital admissions.)

The Solution... Health Management

Patients are discharged with prescription education, and instructions on how to comply.



Without follow-up, patients often fall into non-compliance due to misunderstanding, depression, and the overall complexity of living with their disease.

Physicians need a view of what is happening with their patients between visits.



The Personal Measurement Landscape

- Stand-alone personal measurement devices

- ✓ Weight scales
- ✓ Glucometers
- ✓ Spirometers
- ✓ Blood pressure cuffs
- ✓ Temperature sensors
- ✓ Heart rate monitors
- ✓ Pulse-oximetry sensors



The Home Monitoring Landscape



Viterion



Hommed



Imetrikus

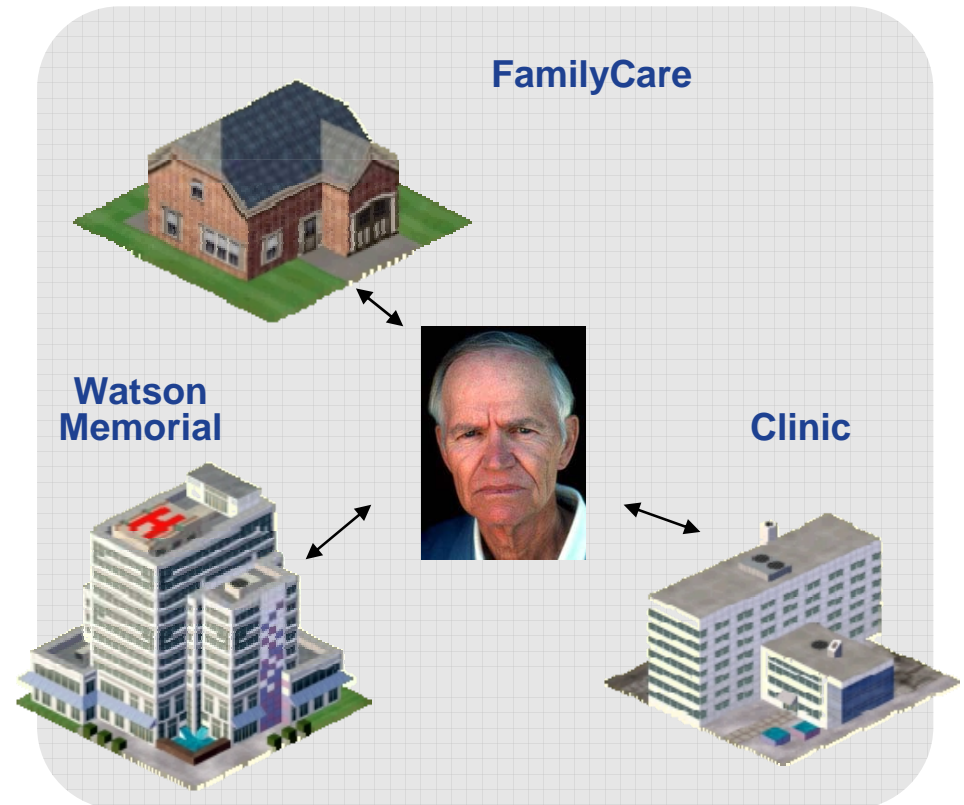


Icare/Health Hero

The state-of-the-art is over-the-counter sensors combined with a centralized user interface.

Need to Bring the Information Together

- Successful strategies link all providers delivering care to the patient
- Patients create information at multiple care settings in the community
- Cross-enterprise information exchange new to HIT industry
- Standards-based approaches emerging



The Challenge of Interoperability



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Interoperability: A Definition

Interoperability means the ability of health information systems to exchange and use healthcare information within and across organizational boundaries to advance the effective delivery of healthcare for individuals and communities.

HIMSS
2006

Value of Health Information Exchange

Nationwide adoption of standardized health information exchange would save U.S. healthcare system **\$337B** over 10 year implementation period and \$78B/year thereafter

Net Benefits to Stakeholders

- Providers - \$33B
- Payers - \$22B
- Labs - \$13B
- Radiology Centers - \$8B
- Pharmacies = \$1B



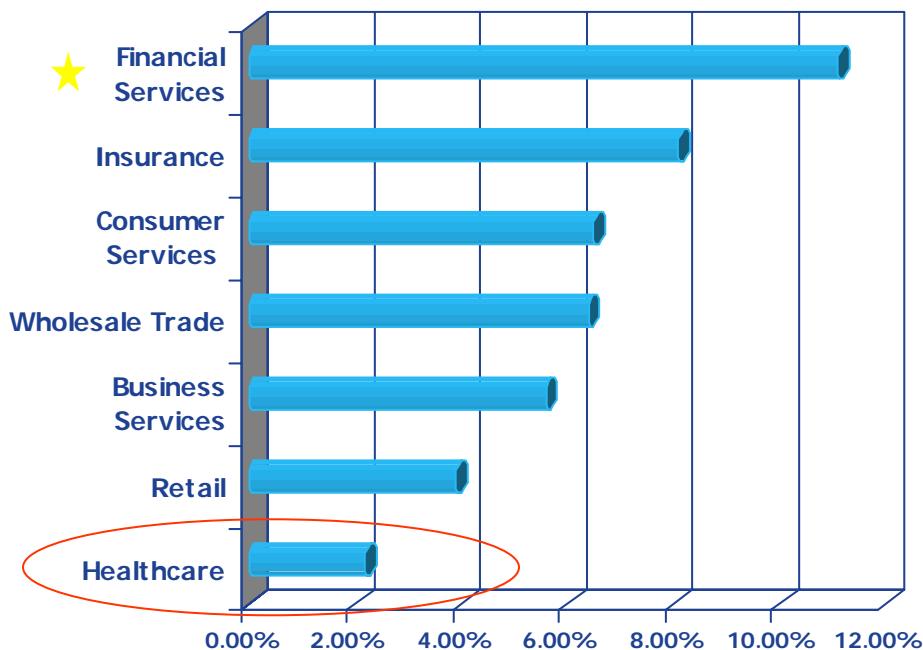
Center for Information Technology Leadership 2004



Where could we use this savings?

Healthcare Has Been Slow to Adopt HIT

IT Investment as Percentage of Revenue



- 90% of the 30B U.S. health transactions each year are conducted by phone, fax or mail
- ✓ Less than 15% of physicians use IT
- ✓ Less than 10% of hospitals use CPOE

Key barriers to date:

- ✓ **Technical**...standards
- ✓ **Financial**....business case
- ✓ **Organizational** and clinical...leadership

Need for Collaboration



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Some Industry Groups Involved

- HHS Department of Health and Human Services of the United States
- NHIN Nationwide Health Information Network
- ONC Office of the National Coordinator for Health IT
- **AHIC** **American Health Information Community**
- HITSP Health Information Technology Standards Panel
- CCHIT Certifications Commission for Health IT
- IEEE Institute of Electrical and Electronics Engineers, Inc.
- ISO International Standards Organization
- HL7 Health Level 7 (leading clinical standards development organization)
- **Continua** **Continua Health Alliance**
- **IHE** **Integrating the Healthcare Enterprise**
- HIMSS Health Information Management Systems Society
- EHRVA HIMSS EHR Vendors Association (formed in 2005)
- BTE Bridges To Excellence (physician quality improvement initiative)
- eHI eHealth Initiative (health information exchange convener)
- CfH Connecting for Health (US collaborative organization)
- CHT Center for Health Transformation



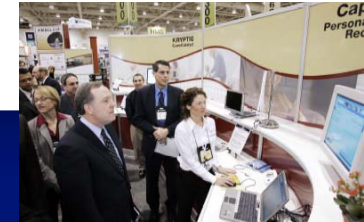
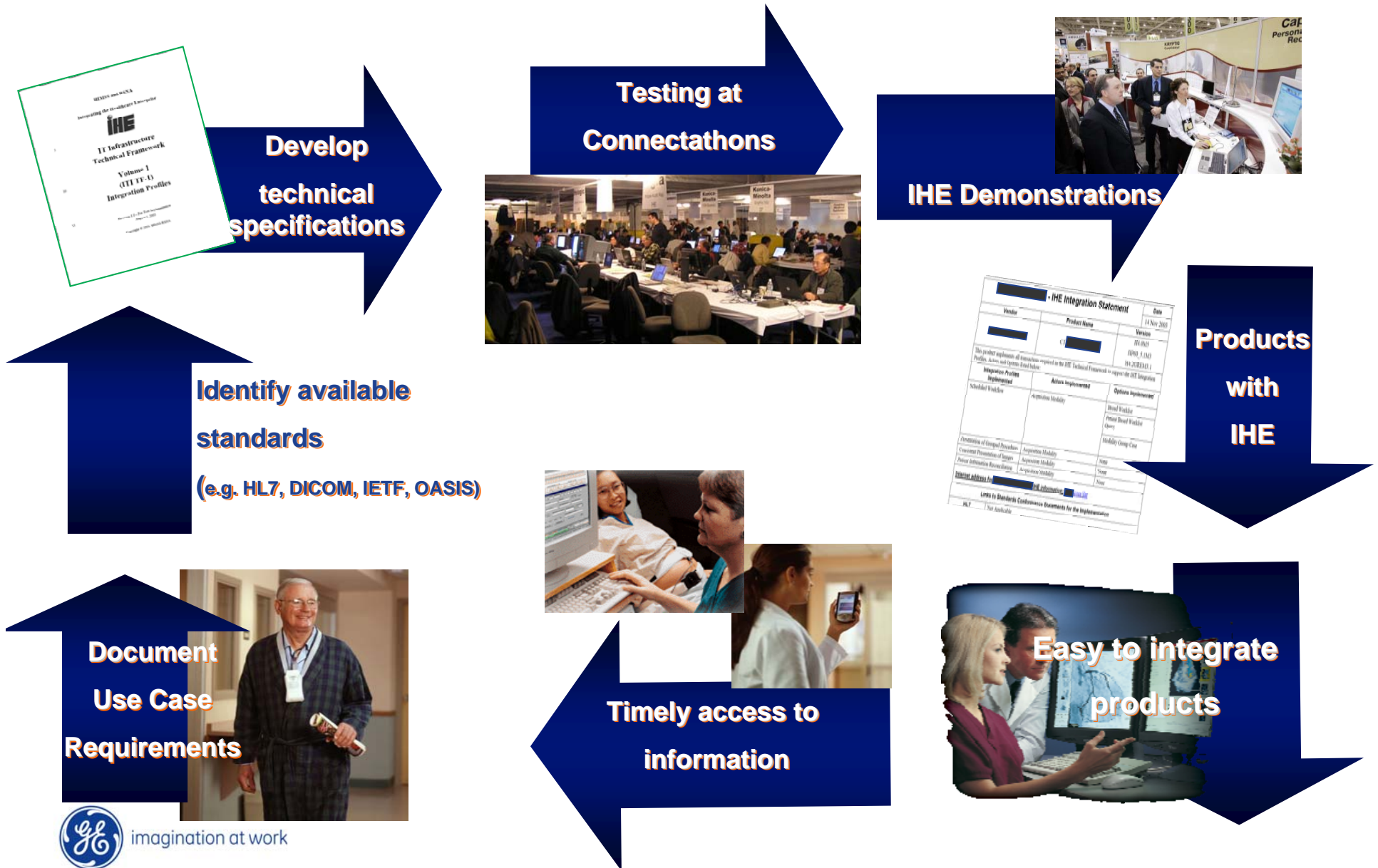
IHE provides a common framework for passing health information seamlessly:

- ✓ within the healthcare enterprise
- ✓ across multiple healthcare enterprises
- ✓ for local, regional & national health information networks

IHE is sponsored by healthcare professional associations: HIMSS, RSNA, ACC, ACP, ACCE, ESC, SFR, BIR, GMSIH, etc.

IHE drives standards adoption to address specific clinical or administrative needs

IHE Proven Standards Adoption Process



- IHE Integration Statement		
Vendor	Product Name	Date
		14 Nov 2003
	Version	01.0003
	UML	01.0003
This product implements all interactions required in the IHE Technical Framework to support the IHE Integration Profiles, Actors and Systems listed below:		
Integration Profiles Implemented	Actors Implemented	Options Implemented
Schedule Workflow	Acquisition Modality	Direct Workflow Private Direct Workflow Query Modality Group Case
Acquisition of Grouped Procedures	Acquisition Modality	
Current Presentation of Images	Acquisition Modality	None
Private Information Reconciliation	Acquisition Modality	None
Workflow Address for	Acquisition Modality	None
Links to Standards Conformance Statements for the Implementation		
HL7	Not Available	





Continua
HEALTH ALLIANCE

The Continua Health Alliance

A non-profit, open industry alliance of the finest healthcare and technology companies in the world joining together in collaboration to improve the quality of personal healthcare



The Continua Health Alliance Objectives

- **GUIDELINES:**

- Select connectivity & data standards for device and service interfaces.
- Develop and publish Guidelines for strict interoperability

- **CERTIFICATION & LOGO:**

- Create a product certification program to test compliance
- Consumer recognizable logo signifying the promise of interoperability.

- **REGULATORY:**

- Work with regulatory agencies around the world to develop consistent regulatory processes for personal health solutions.

- **REIMBURSEMENT:**

- Work with leaders in the healthcare industries to develop new ways of addressing the costs of deploying personal health systems.

American Health Information Community (AHIC)

Executive Order 13,335 *President Bush*
Most Americans to have an EHR by 2014...

HHS Strategic Framework... Four Goals

*Sec. Tommy Thompson,
Dr. David Brailer, Office of the
National Coordinator- HIT , 7/2004*

1. Inform clinical practice

- Incentivize EHR adoption
- Reduce the risk of EHR investment
- Promote EHR diffusion in rural and underserved areas

2. Interconnect clinicians

- Foster Regional Collaborations
- Develop a national health information network
- Coordinate Federal health information systems

3. Personalize care

- Encourage use of Personal Health Records (PHRs)
- Enhance informed consumer choice
- Promote use of tele-health system

4. Improve population health

- Unify public health surveillance architecture
- Streamline quality and health status monitoring
- Accelerate discovery and dissemination

American Health Information Community (AHIC) Announced

Provide public and private sectors to accelerate healthcare IT

*Sec. Mike Leavitt,
6/2005*

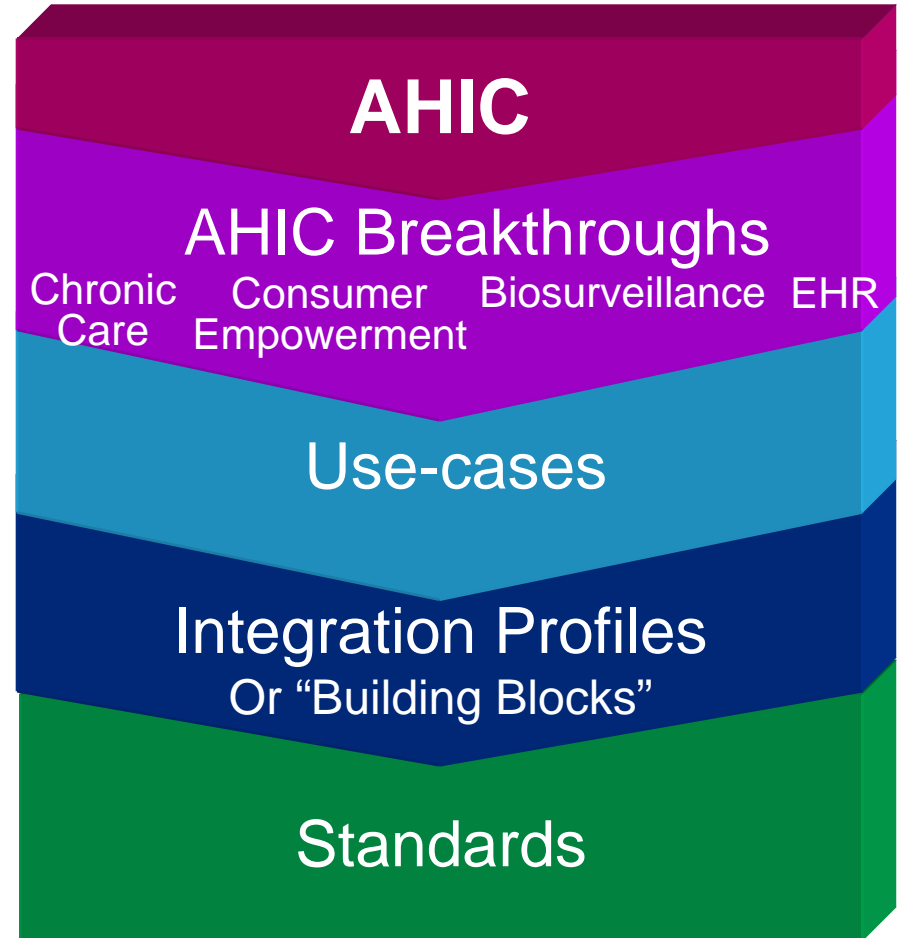
- **Standards Harmonization** – Health IT Standards Panel (HITSP)
- **EHR, IT Infrastructure Certification** – Certification Commission for Health IT (CCHIT)
- **Nationwide Health Information Network (NHIN) pilots** – Accenture, CSC, IBM, Northrop-Grumman
- **Security and Privacy Policies** – Research Triangle Institute



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How “The Community” is influencing interoperability planning

- American Health Information Community “The Community”, providing nation-wide **interoperability priorities** for health information exchange
- Healthcare Breakthroughs **Demonstrations** with impact within 12-18 months
- **Use-cases**, specific for each Breakthrough area
- **Integration Profiles** – specific implementations to provide plug-n-play interoperability



The Roadmap Forward



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Incremental Approach



- Most success has been with a pragmatic approach
- Build upon the proven models in the industry
- Develop cross industry agreement on step wise methodology
- Set priorities and challenge the industry
- Publish and communicate goals and process

Industry Collaboration

Interoperability Collaborative: HIMSS EHRVA, IHE, AHIC, Continua, etc. and Standards Bodies

- ✓ Promote and demonstrate interoperability
- ✓ Accelerate work towards a single set of standards
- ✓ Communicate to all stakeholders
 - Technical
 - Non-technical
 - Policymakers



Vendors: Interoperability Roadmap

- ✓ Built on available standards and / or promote the need for new / harmonized standards
- ✓ Specify, test, and demonstrate interoperability

Best Practices

Outreach and education

- ✓ legislators
- ✓ Physician organizations
- ✓ Provider IT executives



Support national interoperability efforts

- ✓ Community breakthrough areas
- ✓ Harmonization efforts and use cases
- ✓ Global standards planning and harmonization efforts

Deliver interoperable EHR components

- ✓ Real-world implementation of interoperability
- ✓ Work with projects Interoperability Roadmap

Standards



- **Challenge** the standards and specific implementation context for those standards to solve specific use cases
- Describe **specific data sets** for unambiguous data exchange and system to system interaction
- Provide the necessary **instructions** to implement the specific standards in commercial and self-developed systems
- **Eliminates Options** found in Published Standards

Financial Incentives

- ✓ Provide incentive for providers who improve quality of care and reduce cost
- ✓ Align quality and reimbursement between payer and provider
- ✓ Facilitate collaboration among providers across healthcare delivery system
- ✓ Foster adoption of best practice



We Can Meet the Challenge

Imagine healthcare as a 'continuous' process supporting early health

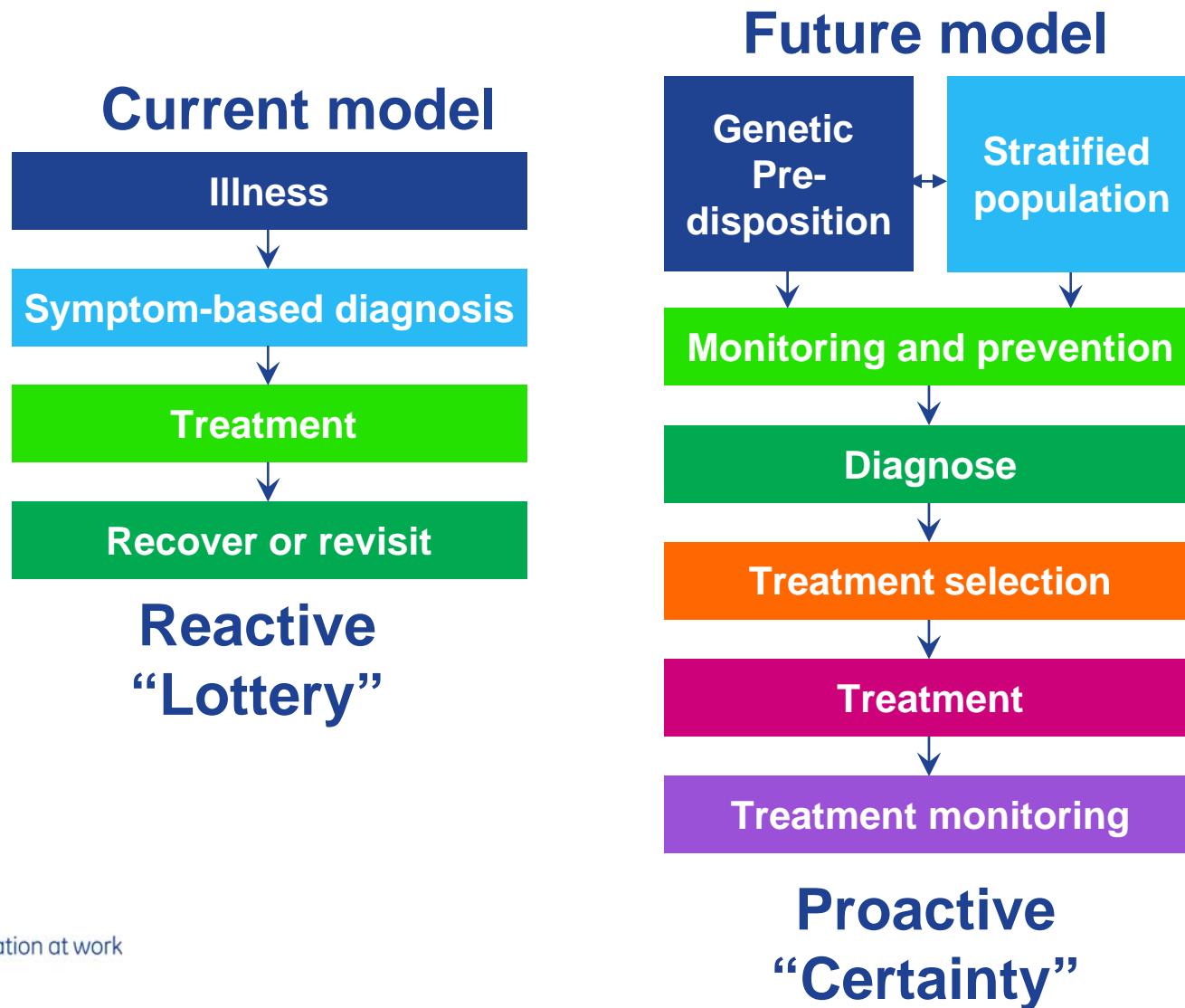
Imagine consumers and clinicians always being 'connected' and able to access the clinical record and workflow applications

Imagine devices that improve your clinical workflow and seamlessly integrated into your personal devices to support technology convergence and evolution



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21st century healthcare transformation: From “late disease” to “early health”





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Thank you

